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May 27, 1994

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The Honorable Reed Hundt, Chairman
Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

Dear Chairman Hundt:

On behalf of Richard Roy, President of ArrayComm, Inc., I am forwarding a copy of a recent press release concerning the Commission's reconsideration of the rules concerning Personal Communications Services.

The press release focuses on the RF power limits for PCS networks. I am sure you are very aware of the industry's concerns about the present guidelines, and we would strongly encourage you, once again, to vote for new rules.

We appreciate the effort that you and the other Commissioners have put forth in reviewing the rules. By altering the RF emissions guidelines, the next generation of wireless services will be accessible by most of the citizens.

Thank you again,

Jill Roumeliotis
Director, Communications and Resources

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ARRAYCOMM

PRESS RELEASE

For Immediate Release

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Background - *Recent filings by major PCS operators, manufacturers, technology companies, and industry associations to the FCC request changes in the rules governing PCS RF power emissions. The present rules limit the operators' ability to build cost effective systems and also expose the public to potentially harmful amounts of RF radiation. ArrayComm's proposal allows providers to employ more efficient and less harmful systems without inhibiting the ability of the base station to communicate with the smaller, safer mobile units.*

Proposed Power Limits Level Playing Field for PCS Operators while Increasing Public Safety

(May 25, 1994)—A petition for reconsideration of Personal Communications Services (PCS) power limits was filed April 22 with the Federal Communications Commission (FCC) by ArrayComm, Inc. The petition seeks to change PCS power limits in order to promote public safety while simultaneously giving PCS operators the flexibility required to build cost effective PCS networks.

In October 1993, the FCC adopted base station and handset power emission limitations which they hoped would encourage innovation within the PCS industry while providing a safe environment for the public with respect to RF emission exposure. However, those rules (FCC Second Report and Order 93-451) create an uneven playing field with potentially dangerous results for the end users.

Robert Voss, Senior Engineer at MCI, stated in a recent filing by MCI to the FCC, "the Commission has mandated widespread (90% coverage of POPs) for deployment of PCS.

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Economic deployment to achieve this within the ten year timeframe requires the use of latest advanced technologies. The rules adopted in the Second Report and Order limit the ability of potential licensees to utilize new technology. The current power levels may prevent cost effective deployment of the benefits of PCS technologies and services to less densely populated areas."

The current power guidelines assume that a single transmitter/receiver is assigned to each channel and set the maximum allowable power emissions from a base station on a per channel basis. Systems using many channels within a given frequency allocation such as narrowband AMPS are allowed to transmit substantially more total power than systems that employ few channels over a large amount of spectrum such as CDMA. Additionally, the total power emitted from a base station with many channels may exceed the recommended limits for the public's safe exposure to RF emissions.

Recently, the FCC set up a PCS Task Force to review the rules and recommend changes. Many companies, including ArrayComm, MCI and Northern Telecom, have suggested improvements to the rules.

ArrayComm's proposed guidelines support the FCC's original intentions while overcoming the disparities inherent in the present rules. The suggested limitations for base station transmission powers would allocate power on a per hertz basis, ensuring that the total amount of RF emission for a PCS frequency allocation meets RF exposure guidelines.

The flexibility to increase base station transmit power when needed to reach distant mobile units is necessary in order to make PCS competitive with cellular service. As explained in the petition for reconsideration submitted by Northern Telecom, "the Commission will license up to seven PCS operators in each market, and in addition the Commission loosened some of the restrictions on cellular operators so that PCS is likely to receive competition from cellular and other wireless services. The power limits for PCS base stations will impact an operator's ability to compete effectively with these other mobile services providers."

Under the present power limitations, PCS networks, especially wideband systems, require a cost-prohibitive amount of infrastructure. Because companies anticipate pricing PCS services at or below the

price of competing cellular services, the revenue projections do not begin to offset the anticipated cost of new services. ArrayComm's proposal would lead to reduced infrastructure and result in more cost effective, competitive systems.

The new proposed guidelines limit the total amount of RF exposure to levels below currently accepted RF radiation guidelines. In addition, the proposal encourages greater public safety by promoting systems which transmit directionally rather than omnidirectionally, as is now the case in present systems and in many proposed systems. Smart antenna technology being developed by companies such as Northern Telecom, Ericsson, and ArrayComm will allow operators to directionally transmit from the base station, reducing the amount of RF pollution and providing clear communications channels.

While the ability to successfully transmit to a mobile unit at large distances is necessary in PCS , a new problem is created when cell range is extended. Power levels that ensure safe operation of a handheld unit limit the distance a user can travel from a conventional base station. The plans for smaller, less powerful (and thereby safer) handsets suggest that more intelligent processing of the received signal will be required. Several companies are examining this problem, and ArrayComm has built and successfully tested a prototype of such a system.

If ArrayComm's proposed RF power limits are adopted, providers will be able to deploy more efficient and safer systems without sacrificing the ability of the base station to communicate with smaller, safer portable units.

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